CLAIMS

We claim:

1. A recombinant genetic construct, adapted to encode a dengue viral genome, comprising:

A full genome-length nucleic acid clone of a dengue virus genome having a 13-amino acid-encoding region just proximal to the pr-M cleavage site which is devoid of negatively-charged amino acid and contains additional positively-charged amino acid as compared with the prototype dengue virus.

2. The genetic construct of claim 1, comprising DNA.

3. A mutant dengue virus having a genome comprising:

A full genome-length nucleic acid clone of a dengue virus genome having a 13-amino acid-encoding region just proximal to the pr-M cleavage site which is devoid of negatively-charged amino acid and contains additional positively-charged amino acid as compared with the wild type dengue virus.

4. A mutant dengue virus of claim 3 contains less prM protein on viral envelope than the prototype dengue virus due to an enhanced internal cleavage of the prM protein.

5. A mutant dengue virus of claim 3 induces infected C6/36 mosquito cell line to fuse at the neutral pH to a greater extent than the prototype dengue virus. Induction of infected C6/36 cell fusion by the mutant dengue virus occurs well at 29°C, but is less efficient at 40°C.

6. A mutant dengue virus of claim 3 is exported out of the infected cells to a lesser extent than the prototype dengue virus, resulting in a lower virus titer in the culture medium.